

**Form ST: Solar Thermal Systems
Utah Renewable Energy Systems Tax Credit
Investment Tax Credit Certification**



This form must be completed by all applicants seeking Utah tax credits for a system producing electricity from the sun by using solar thermal technology.

Taxpayer Name

Social Security Number or Federal ID Number

The system's solar collectors are:

Flat Plate

Evacuated Tube

Other (Describe)

List make and model of solar collectors (see instructions)

Number of collectors

Total capacity (kBtu/day) of the system (see instructions)

List make and model of the overall solar heating system (see instructions)

Is the system OG-300 certified? Yes No

If not, please attach other certification

Collector orientation (in degrees)

Collector tilt (degrees from horizontal)

Total cost of your solar thermal system

Total eligible solar thermal equipment cost (see instructions)

Total eligible solar thermal installation and other costs (see instructions)

Total eligible thermal solar cost (sum of equipment, installation, and other)

Reasonable cost limitation (see instructions)

Enter amount of credit claimed for the solar thermal system above (see instructions)

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Equipment Vendor Information

Name
Street Address
Town/City State Zip
Phone

Project Installer Certification (see instructions)

Name
Street Address
Town/City State Zip
Phone
Contractor License Number License Type

I certify that I installed the solar thermal system described on Forms A and ST of this application.

Signature Date

System Certification (see instructions)

Name of Certifier
Street Address
Town/City State Zip
Phone
Contractor or Inspector License Number
License Type

I certify that I have inspected the solar thermal system described on Forms A and ST of this application. I further certify that upon inspecting this system I have found it to be a safe system and that it conforms with all applicable building and safety codes within the state of Utah at this time.

Signature Date

**REMINDER: Documentation of your solar thermal system must be attached.
See Form A for general documentation requirements. Also see the instructions for documentation requirements that are specific to solar thermal systems.**

Instructions for Form ST: Solar Thermal Systems

List make and model of solar collectors:

Solar collectors are the individual panels or units that may be used individually or are linked with several other collectors to transfer the sun's heat into a liquid or other heating medium. List here the company that made your collectors, their model number, and the total rated heating capacity (in thousand Btu's per day or kBtu/day) of all collectors in your system. Note that in order to be eligible for residential or commercial tax credits, an active solar thermal system installed after December 31, 2008 and that heats water must be certified and rated by the Solar Rating Certification Corporation (SRCC) according to SRCC Document OG-300, "Operating Guidelines and Minimum Standards for Certifying Solar Water Heating Systems". To view a list of OG-300 certified systems, please visit <http://www.solar-rating.org/ratings/ratings.htm>

If your system is not OG-300 certified, you may demonstrate to USEP that the solar thermal system meets standards that are equivalent to those of the SRCC Document OG-300 by providing: 1. Detailed engineering design and performance data that show system performance, or 2. Certification from other recognized National or European solar thermal testing labs.

Total capacity (kBtu/day) of the system:

Solar collectors are rated according to the total amount of heat they can produce in one day under ideal conditions. You should be able to find the rating for your collectors among the manuals or literature that come with your system. If not, you can find this rating in the "Summary of SRCC Certified Solar Collectors and Water Heating System Ratings" at the website specified above. For each SRCC-certified system you will find a column labeled as "Clear C (kBtu/day)". This is the capacity rating for a single solar collector of that make and model. If your system has just one collector, then this number is your total system capacity. If you have multiple collectors, add their capacities together to arrive at total system capacity.

List make and model of the overall solar heating system:

Most solar thermal systems are sold to consumers as a packaged system with standard components and installation specifications. If your system was sold as a packaged unit, enter company and model information here. Note that after December 31, 2008, in order for a solar thermal system to be eligible for tax credits in Utah, it must be listed as an OG-300 certified system by the Solar Rating and Certification Corporation (SRCC). A list of certified systems can be found on Page 3 of the SRCC document "Summary of SRCC Certified Solar Collectors and Water Heating System Ratings" at the SRCC website, <http://www.solar-rating.org/ratings/ratings.htm>.

Eligible Equipment Costs:

For purposes of determining eligible costs, an active solar thermal system ends at the interface between it and a conventional heating system. Eligible costs for a solar thermal system are limited to components that would not normally be associated with a conventional hot water heating system. Eligible equipment costs include:

1. Solar collectors that transfer solar heat to water, a heat transfer fluid, or air,
2. Thermal storage devices such as tanks or heat sinks, and
3. Ductwork, piping, fans, pumps and controls that move heat directly from solar collectors to storage or to the interface between the active solar thermal system and a building's conventional heating and cooling systems.

Hot water storage tanks that have dual heat exchange capabilities allowing for the heating of water by both the active solar thermal system and by a nonrenewable energy source such as natural gas or electricity are eligible for tax credits. However, only one half of the costs of purchasing and installing such tanks are eligible costs for the purposes of calculating a tax credit.

Eligible installation and other costs:

Design and installation costs are eligible, but only those costs associated with the installation of eligible solar thermal equipment can be credited. The cost (if any) of obtaining an easement necessary for the installation of a solar thermal system is also eligible.

Reasonable Cost Limitation:

Under Utah Code, taxpayers are entitled to established percentages of the reasonable cost of renewable energy systems. USEP is authorized to make a determination of reasonable costs and to limit tax credits based upon that finding. Based upon research and consultation with members of the solar industry, USEP has determined that the eligible costs of a solar thermal system using flat plate collectors are reasonable when they are not more than \$150 per thousand Btu (kBtu) of installed capacity. For systems using evacuated tube collectors, reasonable costs are capped at \$270 per kBtu of capacity.

To calculate your reasonable cost limitation, multiply the total installed capacity (in kBtu) of your system (entered above on Form ST) by \$150 if your system consists of flat plate collectors, or by \$270 if your system consists of evacuated tube collectors.

If the actual cost of your system exceeds the reasonable cost calculated above due to special circumstances, the taxpayer applicant may request that the reasonable cost limitation above be waived by USEP. In order to do so, the applicant must provide written documentation and explanation from the designer or installer of the system as to why the final system cost exceeded this limit. Granting of such a waiver will be at the

discretion of USEP and UGS after investigation as to the validity of the waiver claim.

Enter amount of credit claimed for the solar thermal system:

For a residential system.

- Step 1 – Begin by comparing your total eligible costs to the reasonable cost limitation above. If the cost of your system exceeds the limitation, use the reasonable cost limitation amount to go to Step 2. If your total eligible costs are less than or equal to the reasonable cost limitation, use your total eligible costs amount for Step 2.
- Step 2 - If you received a refund or rebate for your system, subtract that amount from the amount from Step 1. Do not subtract the value of any federal tax credits you have received or may claim. (Note: Any refunds and rebates should be listed on Form A.)
- Step 3 - Multiply the amount from Step 2 by 0.25.
- Step 4 - If the amount from Step 3 is less than \$2,000, enter that amount on Form ST for your credit amount. If the amount from Step 3 is \$2,000 or higher, enter \$2,000 for your credit amount.

For a commercial system.

- Step 1 – Begin by comparing your total eligible costs to the reasonable cost limitation above. If the cost of your system exceeds the limitation, use the reasonable cost limitation amount to go to Step 2. If your total eligible costs are less than or equal to the reasonable cost limitation, use your total eligible costs amount for Step 2.
- Step 2 - If you received a refund or rebate for your system, subtract that amount from the amount from Step 1. Do not subtract the value of any federal tax credits you have received or may claim. (Note: Any refunds and rebates should be listed on Form A.)
- Step 3 - Multiply the amount from Step 2 by 0.10.
- Step 4 - If the amount from Step 3 is less than \$50,000, enter that amount on Form ST for your credit amount. If the amount from Step 3 is \$50,000 or higher, enter \$50,000 for your credit amount.

Project Installer Certification:

In order to be eligible for a residential or commercial tax credit, all solar thermal hot water or heating systems must be installed by one of the following licensed contractors:

1. A Utah licensed plumbing contractor,
2. A Utah licensed solar hot water contractor, or
3. A licensed contractor who has obtained written approval by the Utah Department of Occupational Licensing for the installation of solar hot water systems.

The system installer certification section must be completed and signed by a person in one of the three categories above in order for you to receive a tax credit for a solar thermal system.

System Certification:

In order to be eligible for a residential or commercial tax credit, an active solar thermal system must be certified for safety by one of the following:

1. A Utah licensed plumbing contractor,
2. A Utah licensed solar hot water contractor, or
3. A county or municipal building inspector licensed by the State of Utah.

The system certification section must be completed and signed by a person in one of the three categories above in order for you to receive a tax credit for a solar thermal system. This person may also be the installer if he/she has the required license.

System Documentation:

Form A lists general documentation requirements that apply to all renewable energy systems. In addition to those requirements, documentation submitted for a solar thermal system must also show the following:

1. Solar collectors are free of shade (vent pipes, trees, chimneys, etc.) and positioned accordingly so as to optimize the average annual solar radiation values (kWh/M²/day). Guidance for siting may be found at the National Renewable Energy Laboratory's (NREL) National Solar Radiation Database, which can be found at: <http://rredc.nrel.gov/solar/pubs/redbook/PDFs/UT.PDF>.
2. Fixed, non-glazed collectors shall be oriented within 45 degrees of true south if the fixed pitch is greater than 30 degrees from horizontal, or oriented within 90 degrees of true south if the fixed pitch is 30 degrees or less from horizontal.
3. Fixed, glazed collectors shall be oriented within 165 degrees and 225 degrees if the fixed pitch is greater than 30 degrees from horizontal, or oriented within 165 degrees and 270 degrees if the fixed pitch is 30 degrees or less from horizontal.